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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,269	03/05/2002	Tadahiro Ohmi	FUK-84	2418

22855 7590 09/07/2006

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EXAMINER	
CHEVALIER, ALICIA ANN	
ART UNIT	PAPER NUMBER
1772	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/889,269	OHMI ET AL.	
	Examiner	Art Unit	
	Alicia Chevalier	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,5-10 and 12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,5-10 and 12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

RESPONSE TO AMENDMENT

Request for Continued Examination

1. The Request for Continued Examination (RCE) under 37 CFR 1.53 (d) filed on June 16, 2006 is acceptable and a RCE has been established. An action on the RCE follows.

2. Claims 2, 5-10 and12 are pending in the application, claims 1, 3, 4 have and 11 been cancelled.

3. Amendments to the claims, filed on June 16, 2006, have been entered in the above-identified application.

REJECTIONS

4. **The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.**

Claim Rejections - 35 USC § 112

5. Claims 2 and 5-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the instant case amended claims 5-9 contain the limitation "chromium-oxide deposited formed directly on the metallic body." The specification does explicitly disclose that the chromium-oxide layer is formed directly on the metallic body, therefore this limitation is

considered new matter. Rather the specification on page 6, lines 4-11 recites, "In the invention, a contact ability of an interface between the metallic material and a coat film is improved by coating chromium onto the metallic material and then oxidizing the chromium. It specifically states that the coat film is improved by coating chromium onto the metallic material. Furthermore, on page 9 of the specification it recites that the chromium-oxide passivation film is substantially 100%, which means that there is chromium left in the coating. Thus forming a chromium/chromium oxide surface treatment.

The new matter must be deleted.

6. Claims 2 and 5-12 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The thickness of the passivation film is critical or essential to the practice of the invention, but not included in the claims is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Applicant discloses on page 9 of the specification that it was verified that the chromium-oxide passivation film of substantially 100% has been formed, which is approximately 30 nm from the outermost surface. Therefore, in order to obtain good adhesion yet have an nearly fully oxidized chromium passivation film, it is essentially to have the correct thickness.

ANSWERS TO APPLICANT'S ARGUMENTS

7. Applicant's arguments in the response filed June 16, 2006 regarding the 35 U.S.C. 112, first paragraph, rejections of record have been carefully considered but are deemed unpersuasive.

Applicant argues that the examiner's understanding that the improved contact ability derives from the presence of a purely (i.e., non-oxidized) chromium layer formed directly on the

metallic material surface, is in correct. Rather, the improved adhesion is due to the provision of metallic material "of which the surface roughness (Ra) is not more than 1.5 μm", which then allows the oxidized chromium coat to be formed directly on the metallic material surface, i.e., no intervening purely chromium layer in needed between the metallic material and the oxidized chromium coat.

The examiner does admit that the surface roughness does play a part in the improved adhesion. However, according to Applicant's specification the improved adhesion is not solely the result of the surface roughness. Page 6, lines 4-11 recite:

> In the invention, a contact ability of an interface between the metallic material and a coat film is ***improved by coating chromium onto the metallic material of which the surface roughness (Ra) is not more than 1.5μm***, in addition to strengthen a coupling force of the interface by applying heat treatment solves the poorness of the conventional adhesion, and in addition, the chromium-oxide passivation film excellent in corrosion resistance can be formed by applying oxidizing treatment.

This passage from the specification clearly shows that the improved adhesion is from coating chromium onto a metallic surface with a specific surface roughness. Furthermore, Applicant has not provide where they have support in the specification for the improved adhesion as a result from solely the surface roughness, nor has applicant provide evidence in the form of an affidavit to show that the improved adhesion is solely a result of the surface roughness.

Applicant further argues that figure 2 clearly shows that the oxidation of the referenced "coat film" occurs all the way down to the 0 nm depth, i.e., right at the boundary with the metallic surface.

According to Applicant's specification the 0 nm depth is not at the metallic surface, rather it is the surface exposed to the atmosphere. Page 9, lines 5-15 recites:

> Fig. 2 shows a result measured by evaluating chromium-oxide passivation film by a ESCA-100, made by Shimazu Seisakusyo, after oxidizing treatment.
>
> From the results, it was verified that the chromium-oxide passivation film of substantially 100% has been formed, ***which is approximately 30 nm from the outermost surface.***
>
> The corrosion test is performed under the condition of sealing chlorine gas of 100% under not more than 5 Kgf/cm^2 at 100°C for 24Hr through an accelerated test. Surface observation was performed by a scanning electron microscope JSM-6401F, made by Nippon Densi Kabusikikaisya, after oxidizing treatment.

Clearly, when the specification states "30 nm from the outermost surface" it is referring to the outermost surface as the surface that is contacting the atmosphere, not the metallic surface, because the metallic surface interface creates in inner surface not an outer surface. Therefore, the outermost surface exposed to the atmosphere is the 0 nm depth and the rest of the results shown in figure 2, shows the depths closer to the metallic surface. Once again, Applicant has not provide where they have support in the specification for their interpretation of figure 2, nor has applicant provide evidence in the form of an affidavit to show that the 0 depth is the interface between the coat film and the metallic surface.

Applicant argues that since figure 3 evaluated surface roughness dependence on the chromium oxide film.

First, as the section that Applicant has pointed out also mentioned the "chromium-coat film." Second, the specification further states the chromium coat-film is "substantially 100%" chromium oxide. Therefore, part of the chromium coat film is not being oxidized.

Applicant argues that the disclosure cited by the Examiner does not establish that 30 nm thickness limitation is critical.

First, as stated above, the examiner disagrees with Applicant's interpretation of the 0 nm depth being the interface of the chromium layer with the metallic surface. Second, figure 2 clearly shows at greater depth there is much less oxygen than chromium. Since, the chemical formula for chromium oxide is Cr_2O_3, if there is less oxygen there will be less chromium oxide and therefore chromium will still be present. Third, Applicant's own specification states that oxidization is not 100%. In conclusion, while the examiner may be mistaken that 30 nm is a critical limitation, there is still a criticality in thickness. Figure 2, clearly shows that at larger thickness there will be less oxygen and thus not a complete chromium oxide film.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Chevalier whose telephone number is (571) 272-1490. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ac
9/4/06

ALICIA CHEVALIER
PRIMARY EXAMINER